APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,809	11/21/2002	Alain Blanc	FR920010071	7980

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EXAMINER
DING, LEIBO

ART UNIT	PAPER NUMBER
2632	

DATE MAILED: 09/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		10/065,809	BLANC ET AL.
		Examiner	Art Unit	
		Leibo Ding	2632	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>21 November 2002</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) <u>1-9</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-9</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>21 November 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☒ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Priority

1.   Acknowledgment is made of applicant's claim for foreign priority based on an

application filed in EPO on Dec 21, 2001. It is noted, however, that applicant has not

filed a certified copy of the EP01480144.3 application as required by 35 U.S.C. 119(b).

2.   It is noted that this application appears to claim subject matter disclosed in prior

Application No. EP01480144.3, filed on Dec 21, 2001. A reference to the prior

application must be inserted as the first sentence(s) of the specification of this

application or in an application data sheet (37 CFR 1.76), if applicant intends to rely on

the filing date of the prior application under 35 U.S.C. 119(e), 120, 121, or 365(c). See

37 CFR 1.78(a). For benefit claims under 35 U.S.C. 120, 121, or 365(c), the reference

must include the relationship (i.e., continuation, divisional, or continuation-in-part) of all

nonprovisional applications. If the application is a utility or plant application filed under

35 U.S.C. 111(a) on or after November 29, 2000, the specific reference to the prior

application must be submitted during the pendency of the application and within the

later of four months from the actual filing date of the application or sixteen months from

the filing date of the prior application. If the application is a utility or plant application

which entered the national stage from an international application filed on or after

November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must

be submitted during the pendency of the application and within the later of four months

from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or

sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(t) are not required. Applicant is still required to submit the reference

in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

Specification

3.   The disclosure is objected to because of the following informalities:

On age 3, in line 6 of paragraph [0011], "*"pure"* data traffic" should be "<u>voice and real-time</u> data traffic".

Appropriate correction is required.

Claim Objections

4.   Claims 1, 2, 5 and 6 is objected to because of the following informalities:

In line 5 of claim 1, "<u>each data packet</u>" should be "<u>each of data packet</u>".

In lines 11 and 16 of claim 1, line 4 of claim 2, line 2 of claim 5 and line 5 of claim 6, "<u>priority N</u>" should be "<u>priority rank N</u>".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   Claims 1, 3 – 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

With respect to claim 1, first, applicant used "its" in line 6, but it is not clear what "it"

stands for, it is not clear "it" is data packet, scheduler or queue device. Clarification is

needed.

Secondly, applicant used "packet" in line 7, also applicant uses "data packet" in lines 1, 3

and 5. It is not clear they represent each other or not. Clarification is needed.

Claims 3 – 6, which cited "data packet", are rejected, before "data packet" and "packet"

are clarified as in claim 1.

Double Patenting

7.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the
unjustified or improper timewise extension of the "right to exclude" granted by a patent
and to prevent possible harassment by multiple assignees.   A nonstatutory
obviousness-type double patenting rejection is appropriate where the conflicting claims
are not identical, but at least one examined application claim is not patentably distinct
from the reference claim(s) because the examined application claim is either anticipated
by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29
USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.
1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422
F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163
USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d)
may be used to overcome an actual or provisional rejection based on a nonstatutory
double patenting ground provided the conflicting application or patent either is shown to
be commonly owned with this application, or claims an invention made as a result of
activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a
terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with
37 CFR 3.73(b).

8.   Claims 1 – 4 and 9 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1 – 4 and 8 of

copending Application No. 10/065,808. Although the conflicting claims are not identical,

they are not patentably distinct from each other because the differences between the

conflicting claims would have been <u>obvious</u> at the time the inventions were made to a

person having ordinary skill in the art.

This is a <u>provisional</u> obviousness-type double patenting rejection because the

conflicting claims have not in fact been patented.

9.   Claims 1 – 4 and 9 are provisionally rejected on the ground of nonstatutory

obviousness-type double patenting as being unpatentable over claims 1 – 4 and 8 of

copending Application No. 10/065,808 in view of US Patent Number 6438134 to Henry

Chow (hereinafter "Chow").

With respect to claim 1, claim 1 of Application 10/065808 contains all the elements of

claim 1 of instant application, except that the scheduler further includes a <u>exhaustive</u>

<u>priority register</u> and <u>the exhaustive priority has higher priority than the priority rank from</u>

<u>the credit device</u>.

With respect to claims 2 – 4 and 9, Application 10/065808 claims the same invention as

specified in claims 2 – 4 and 8 respectively.

Chow teaches a method for servicing queues for switch in communications system.

The preferred embodiment is carried out by a hierarchical scheduler that comprises an

exhaustive scheduler, a shaper scheduler and an idle bandwidth scheduler (col. 3, lines

35 – 41); and the shaper scheduler is composed of two shaper sub-scheduler 20A and

20B which feed an exhaustive sub-scheduler (which in turn feeds the exhaustive

scheduler), shaper sub-scheduler 20A services the real time traffic classes and shaper

sub-scheduler 20B services non-real time traffic classes; <u>shaper sub-scheduler 20A has</u>

<u>a higher priority with respect to exhaustive sub-scheduler 112 than shaper sub-</u>

<u>scheduler 20B</u> (col. 11, lines 36 – 45 and Figure 8); and the <u>exhaustive scheduler</u> is

configured so that <u>the shaper scheduler is given exhaustive priority over the idle</u>

<u>bandwidth scheduler</u> (col. 3, lines 42 – 44). That means shaper sub-scheduler 20A is

given the exhaustive priority over shaper sub-scheduler 20B, and shaper sub-scheduler

20B is given higher priority than idle bandwidth scheduler; in this embodiment, <u>the</u>

<u>shaper sub-scheduler 20A works as the exhaustive priority register</u>, shaper sub-

scheduler 20B works as the credit device and idle bandwidth scheduler works as normal

priority preemption scheduler. Chow teaches the hierarchical structure for a queue

scheduler, which has the same function as the exhaustive priority register in this instant

application.

It would have been obvious to a person of the ordinary skill in the art at the time the

invention was made to add exhaustive scheduler as taught by Chow to Application

10/065808.

The motivation for doing so would have been to provide a more efficient bandwidth

distribution (last sentence of Abstract in Chow).

Therefore, it would have been obvious to combine Chow with Application 10/065808 to

obtain the invention as specified in claims 1 – 4 and 9.

It should be noted that instant application and copending Application 10/065808 have

the same assignee: International Business Machines Corporation.

This is a <u>provisional</u> obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11.   Claims 1, 2 and 9 are rejected under 35 U.S.C. 102(e) as being unpatentable by

US Patent Number 6438134 to Henry Chow (hereinafter "Chow").

With respect to claims 1 and 2, Chow discloses a method for servicing queues holding

messages, for subsequent processing or transmission to a communication link (lines 1 –

3 of Abstract). The method is carried out by a hierarchical scheduler comprising an

exhaustive scheduler, non-work conserving shaper scheduler and a work conserving

idle bandwidth scheduler (col. 3, lines 35 – 42). The exhaustive scheduler is configured

so that the shaper scheduler is given exhaustive priority over the idle bandwidth

scheduler (col. 3, lines 42 – 44). The scheduling system includes input queues for

storing and transmitting data packets, queue schedulers and output communication link

(out port for receiving data packet from the scheduler) (col. 5, lines 1 – 5). The idle

bandwidth scheduler is implemented as a WFQ (weighted fair queuing) scheduler

wherein each queue is preferably provided or associated with a fixed WFQ weight

corresponding to a pre-determined allocation of the instantaneous idle bandwidth of the

communications link (col. 6, lines 1 – 6). In one embodiment, the shaper scheduler is composed of two shaper sub-schedulers that feed an exhaustive sub-scheduler, shaper sub-scheduler 20A services the real time traffic classes, and shaper sub-scheduler 20B services the non-real time traffic classes; shaper sub-scheduler 20A has a higher priority with respect to exhaustive sub-scheduler than shaper sub-scheduler 20B (col. 11, lines 36 – 45). The shaper sub-scheduler 20A works as the exhaustive priority register, the shaper sub-scheduler 20B works as the credit device to provide priority rank and the idle bandwidth scheduler works as normal priority preemption scheduler.

With respect to claim 9, Chow discloses that the scheduler is used in a switch in ATM communication network (col. 2, lines 50 – 51 and 64 – 65), and the scheduling system includes input queues for storing and transmitting data packets, queue schedulers and output communication link (output port for receiving data packet from the scheduler) (col. 5, lines 1 – 5).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13.   Claims 3 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US

Patent Number 6438134 to Henry Chow (hereinafter "Chow") in view of US Patent

Number 6721273 to Norman A Lyon (hereinafter "Lyon").

Chow discloses all the limitation of claims 1 and 2 (see above), which claims 3 – 7

depend.

With respect to claims 3 and 4, Chow does not disclose that a data packet is read out

only if an active GRANT signal from the receiving device is received by the queue

scheduler, and the GRANT signal depends on the status of the receiving queue device.

With respect to claims 5 – 8, Chow does disclose that the exhaustive scheduler is

configured so that the shaper scheduler is given exhaustive priority over the idle

bandwidth scheduler (col. 3, lines 42 – 44).   In one embodiment, the shaper scheduler

is composed of two shaper sub-schedulers that feed an exhaustive sub-scheduler,

shaper sub-scheduler 20A services the real time traffic classes, and shaper sub-

scheduler 20B services the non-real time traffic classes; shaper sub-scheduler 20A has

a higher priority with respect to exhaustive sub-scheduler than shaper sub-scheduler

20B (col. 11, lines 36 – 45). The idle bandwidth scheduler is implemented as a WFQ

(weighted fair queuing) scheduler wherein each queue is preferably provided or

associated with a fixed WFQ weight corresponding to a pre-determined allocation of the

instantaneous idle bandwidth of the communications link (col. 6, lines 1 – 6).   The

shaper sub-scheduler 20A works as the exhaustive priority register, the shaper sub-

scheduler 20B works as the credit device to provide priority rank and the idle bandwidth

scheduler works as normal priority preemption scheduler.

Lyon teaches a method and apparatus for traffic flow control in a data switch, wherein a

traffic flow controller is coupled between the output and input ports, the traffic flow

controller controls the flow of cells into the switching core in dependence upon

signaling, in the form of input port and output port messages, from the input and output

ports respectively (col. 5, lines 22 – 27); the output port message includes a grants

output for sending port and memory grant message (col. 6, lines 6 – 8); the traffic flow

controller has an input for receiving port/memory grant messages from the output

buffers (col. 15, lines 49 – 51); the congestion counters (in the traffic flow controller) are

monitoring traffic congestion at the output of the switch, via port/memory grant

messages received by the controller from the output ports (col. 15, lines 59 – 62); and at

the input ports, cells in queues will be either transmitted or discarded based on the

traffic flow controller's information (col. 4, lines 8 –11). That means data packets in the

input queues will be read out based on the traffic flow controller, the decision made by

controller is based on port/memory grant messages from the output buffers, and the

messages include the status of output buffer (congestion status or bandwidth threshold,

in another word, buffer level status). The flowchart will be output buffer status → grant

messages → controller → input queue read out/discard.

It would have been obvious to a person of the ordinary skill in the art at the time the invention was made to add the function of GRANT feedback message for controlling the input buffer readout in a switch as taught by Lyon to the method for servicing queues holding messages of Chow.

The motivation for doing so would have been to avoid congestion in the communication switch and achieve better traffic flow control (col. 2, lines 39 – 40 of Lyon).

Therefore, it would have been obvious to combine Lyon with Chow to obtain the invention as specified in claims 3 – 8.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leibo Ding whose telephone number is (571) 270-1137. The examiner can normally be reached on Monday-Friday, 7:30 a.m.--5:00 p.m.,EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz F. Jules can be reached on (571) 272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LD/
September 6, 2006   Frantz F. Jules
                                                        Supervisory
                                                        Patent Examiner